

## OFFICIAL ACTION — PRÜFUNGSBESCHEID

Examiner's Objection — Beanstandungen der Prüfungsstelle

issued on/ ausgestellt am: 24 December 2009  
(mailed on/zugestellt am: 26 January 2010)

Patent-Application Number/Patent-Anmeldenummer: 2005-502444

This application is to be refused for the following reason. The Applicant's Argument (with/without amendment of the specification) should be presented in writing

Diese Anmeldung müsste aus nachstehendem Grunde zurückgewiesen werden; eine etwaige Gegenäußerung hierzu (mit/ohne Berichtigung des Anmeldetextes) ist einzureichen

on or before/ bis zum 26 April 2010.

Reasons:

1. This application does not fulfill the requirements of the Art. 37 of the Patent Law, with respect to the following points.
2. Since the invention claimed in the following claim(s) of this application can easily be made by a person skilled in the art, based on the invention(s) described in the following cited publication(s) which was(were) distributed in Japan or in some foreign countries prior to the filing of this application, it is unpatentable in accordance with Art. 29, Par. 2 of the Patent Law.
3. The descriptions of the claims of this application do not fulfill the requirements of Article 36, Par. 6, No. 2 of the Patent Law, with respect to the following points.

**A. Reason: 1**

Since the laminates claimed in Claims 1 to 39, the methods claimed in Claims 41 to 73, and the laminates manufactured by the apparatuses claimed in Claims 74 to 99 are different in their constituent features, when the inventions set forth in Claims 1 to 39 are those specified, the inventions set forth in Claims 41 to 73 do not correspond to those for producing the products of the specified inventions, and the inventions set forth in Claims 74 to 99 do not correspond to the

machines, instruments, and apparatuses for producing the products of the specified inventions, and the inventions of the other products.

Since this application is contrary to the requirements under Article 37 of Japanese Patent Law, the inventions other than those set forth in Claims 1 to 40 have not been examined with respect to the requirements under Articles other than those under Article 37 of Japanese Patent Law.

**B. Reason: 2 Claims 1 to 40 Cited References: 1 and 2**

Cited References 1 and 2 disclose laminate comprising a layer (A) formed by a monofilm or multifilm and another layer (B) formed by a monofilm or multifilm, both mainly consisting of an orientable thermoplastic polymer material, wherein (A) has a waved flute configuration and (B) on a first one side is bonded in the bonding zones to the crests of waves on a first one side of (A) in the bonding zones,

- a) (B) also has a waved flute configuration, the flute direction of (B) forms an angle of from about 30° up to 90° to the flute direction of (A), and said bonding zones are on the crests of waves on the first one side of (B) to produce spot bonding with the crests on the first one side of (A), and
- b) said bonding is attained
  - i) through (A) directly bonding to (B), and a lamination layer on (A) and/or (B),
  - ii) through a separate thin bonding film, or
  - iii) through a fibrous web adapted for bonding.

(Refer to Cited Reference 1: Utility Model Claims, page 4, line 6 through page 11, line 10, and drawings, and Cited Reference 2: Utility Model Claim, page 1, left column, line 6 through right column, line 16, and drawings).

No particular difficulty can be found in experimentally optimizing the wavelengths of the flutes in said (A) and (B), depending on application of the laminate.

Further, no particular difficulty can be found in making said laminate to a baggy shape.

**C. Reason: 3 Claims 1 to 40**

- (a) What is meant by the term "generally" set forth in Claims 1 and 40 is not clear.
- (b) Whether the terms "preferably", "still more preferably", "or similar", "e.g." and "in particular" set forth in Claims 3, 4, 6, 9, 15, 17, 21, 24, 25, 27, 30 to 32, and 37 restrict the statement right before or right after said terms, or are illustrative of them being not clear.
- (c) What is meant by the term "the said average" set forth in Claim 5 is not clear.
- (d) What is meant by the terms "two major surfaces of the bag" and "the other major surfaces of the bag" is not clear.

## Explanation of the Cited References

## (1) Cited Reference 1 (JP-H02-133331U)

UM Claim 1: A buffer sheet comprising

(a) laminating multiple corrugated sheet films such that the valleys of one corrugated sheet film cross the crests of the adjacent corrugated sheet film, and

(b) bonding the intersecting points of said valleys and crests.

UM Claim 2: A buffer sheet comprising

(a) laminating multiple corrugated sheet films such that the valleys of one corrugated sheet film overlap with the crests of the adjacent corrugated sheet film, and

(b) bonding the intersecting parts of said valleys and crests.

UM Claim 3: A buffer sheet according to UM Claim 1 or 2, comprising laminating a planar film between two adjacent corrugated sheet films.

UM Claim 4: A buffer sheet comprising laminating the planar film on at least one surface of the corrugated sheet film, and bonding the intersecting parts of said corrugated sheet film and planar film.

Page 4, line 6 through page 11, line 10

The present device relates to

## (1) A buffer sheet comprising

(a) laminating multiple corrugated sheet films such that the valleys of one corrugated sheet film crosses the crests of the adjacent corrugated sheet film, and

(b) bonding the intersecting points of said valleys and crests,

## (2) A buffer sheet comprising

(a) laminating multiple corrugated sheet films such that the valleys of one corrugated sheet film overlap with the crests of the adjacent corrugated sheet film, and

(b) bonding the intersecting parts of said valleys and crests,

(3) A buffer sheet according to UM Claim 1 or 2, comprising the laminating the planar film between two adjacent corrugated sheet films, and

(4) A buffer sheet comprising laminating the planar film on at least one surface of the corrugated sheet film, and bonding the intersecting parts of said corrugated sheet film and planar film.

In the present device, the corrugated sheet film is one wherein a thermoplastic film is formed to a galvanized sheet form.

However, the cross-sectional shape of said corrugated sheet film may not be necessarily a wave shape, and may be a zigzag or rectangular-wave shape. The shape may also be one wherein the trapezoids are continuous or the like.

The valley of the corrugated sheet film means a concavely curved part in said corrugated sheet film. Also, the crest of the corrugated sheet film stands for a convexly curved part.

The planar film 2 is a usual thermoplastic film.

The present device will be explained hereinbelow by means of the drawings.

Figs. 1 to 7 represent the examples of the aspects of a buffer sheet of the present device.

1 in the drawings shows one corrugated sheet film, and 1' indicates a corrugated sheet film which is adjacent to the corrugated sheet film 1. 2 illustrates a planer film. Also, 3 signifies a valley of the corrugated sheet film 1, and 3' a crest of the corrugated sheet film 1'.

Figs. 1 and 2 represent the examples of the buffer sheets described in (1), that is the buffer sheets comprising laminating the corrugated sheet films such that the valleys 3 of the corrugated sheet film 1 cross the crests 3' of the corrugated sheet film 1', and bonding the intersecting points of said valleys of the corrugated sheet film 1 and crests of the corrugated sheet film 1'.

Fig. 1 shows an example of the buffer sheet of the above type, comprising two corrugated sheet films.

Fig. 2 shows an example of the buffer sheet, comprising four corrugated sheet films.

Figs. 3 and 4 represent the examples of the buffer sheets described in (2), that is the buffer sheets comprising laminating the corrugated sheet films such that the valleys 3 of the corrugated sheet film 1 overlap with the crests 3' of the corrugated sheet film 1', and bonding the intersecting lines of said valleys of the corrugated sheet film 1 and crests of the corrugated sheet film 1'.

Fig. 3 shows an example of the buffer sheet of the above type, comprising two corrugated sheet films.

Fig. 4 shows an example of the buffer sheet, comprising three corrugated sheet films.

Fig. 5 represents one example of the buffer sheet described in (3). It shows an example of the buffer sheet comprising laminating the planar film 2 between the corrugated sheet films 1 and 1', in the buffer sheet described in (2), and bonding them.

Fig. 6 also represents an example of the buffer sheet described in (3). It shows an example of the buffer sheet comprising laminating a planar film 2 between the corrugated sheet films 1 and 1', in

the buffer sheet described in (1), and bonding them.

Fig. 7 shows an example of the buffer sheet described in (4) wherein the planar films 2 are bonded on both surfaces of the corrugated sheet film 1.

In the buffer sheet of the present device, the corrugated sheet film 1, the corrugated sheet film 1', and the planar film 2 can be bonded by bond by means of heat fusion, electronic sewing machine, or adhesive or pressure-sensitive adhesive or the like.

The corrugated sheet film 1, and 1' can be preferably manufactured in a way that a thermoplastic resin film having a thickness of from 10 to 500  $\mu\text{m}$  is passed into a place where the longitudinally grooved rolls or transversely grooved rolls themselves are freely combined and rotated.

A thermoplastic resin may be directly molded into a corrugated sheet film by means of a die having a wave, zigzag, or rectangular-wave shape or the like.

The corrugated sheet films 1 and 1' desirably have a *nerve*. Therefore, as materials, there may be used the thermoplastic resins such as a low-density polyethylene, a high-density polyethylene, a linear low-density polyethylene, a polypropylene, an ethylene-propylene copolymer, a polyamide, a polyester, an 1, 2-polybutadiene, an ethylene-vinyl alcohol copolymer, an ethylene-vinyl acetate copolymer, a polyvinyl chloride, a polyvinylidene chloride, a vinyl chloride-vinyl acetate copolymer, or the like. Among these materials, a low-density polyethylene, a high-density polyethylene, a linear low-density polyethylene, a polypropylene, an ethylene-propylene copolymer, a polyamide, and a polyester are particularly preferable in terms of cost and processability.

The materials of the corrugated sheet films 1 and 1' are not necessarily the same, provided that they are within the scope of the thermoplastic resins described above. However, they must be the materials which are bondable to each other.

The planar film 2 can be produced by extruding a thermoplastic resin from a T die, or inflation molding it. The planar film 2 preferably has a thickness in the range of from 10 to 500  $\mu\text{m}$ .

As materials, there may be used the thermoplastic resins such as a low-density polyethylene, a high-density polyethylene, a linear low-density polyethylene, a polypropylene, an ethylene-propylene copolymer, a polyamide, a polyester, a 1, 2-polybutadiene, an ethylene-vinyl alcohol copolymer, an ethylene-vinyl acetate copolymer, a polyvinyl chloride, a polyvinylidene chloride, a vinyl chloride-vinyl acetate copolymer, or the like. Among these materials, a low-density polyethylene, a high-density polyethylene, a linear low-density polyethylene, a polypropylene, an ethylene-propylene copolymer, a polyamide, and a polyester are particularly preferable in terms of cost and processability.

However, the materials of the planar film 2 are not necessarily the same as those of the corrugated sheet films 1 or 1'.

[Working of the present device]

The buffer sheet of the present device is one which comprises laminating the corrugated sheet films themselves, or the corrugated sheet film with the planar film(s), and bonding them.

This sheet modifies an impact from outside, with elastic deformation of each layer of the laminated corrugated sheet film(s) or planar film(s).

[Advantageous effects of the present device]

The buffer sheet of the present device is one which comprises laminating the planar films consisting of a thermoplastic resin. Moreover, due to elastic deformation of the planar film in each layer, the impact from outside is modified.

Because of this, if the buffer sheet of the present device is holed with an impact during shipping, little lowering of impact capability is found.

In addition, the buffer sheet of the present device does not fracture during shipping, different from the conventional expanded sheets.

The corrugated sheet films used for the buffer sheet of the present device can be continuously manufactured by passing a thermoplastic resin film between the longitudinally or transversely grooved rolls themselves which are freely combined. Further, to laminate and bond these corrugated sheet films can be continuously carried out. For this reason, the buffer sheet of the present device is easily continuously produced, and further the complicated steps such as expanding are unnecessary.

Therefore, the cost of production can be largely reduced. Further, since a foaming agent such as from is not employed, environmental concerns such as in the manufacture of the foamed sheets do not occur.

(2) Cited Reference 2 (JP-S34-4152UB)

UM Claim: A structure of an acoustic material made of plastic material, comprising forming a thin sheet of a synthetic resin wherein a number of holes 3 are punched as shown in the drawings to the one having a wave shape, polymerizing some of said sheets and bonding them to each other.

Page 1, left column, line 6 through right column, line 16

It is an object of this utility model to fit an acoustic material in such a manner that a construction, particularly the wall in a room, is covered with an acoustic material wherein many holes 3 are

punched to the thin film sheet 1 made by regenerating the photographic film scrap or the like of a synthetic resin, e.g., acetylcellulose, said thin film sheet 1 is formed to the one having a wave shape, and some of said thin film sheets 1 are polymerized to bond them to each other, and to adsorb an acousmato to be reflected on the wall.

Fig. 2 shows a structure of an acoustic material wherein four corrugated sheets 1 are polymerized, and overlapped such that the directions of the adjacent corrugated sheets are perpendicular to each other, that is vertically and horizontally, and this is mounted to an adequate frame 4 fitted to the surface of the wall 5 of the construction.

Explaining the working effect of an acoustic material of the present utility model on an acousmato, the sound waves headed for a wall from a sound source hit against the corrugated sheet 1 to try to cause this to vibrate depending on its natural frequency. However, since the corrugated sheet has a film shape, a thin thickness and a wave shape, and furthermore, a number of holes 3, and its natural frequency is quite small due to its flexibility, the majority of an acoustic energy which hits against the corrugated sheet 1 results in being absorbed into the corrugated sheet 1. The sound waves which pass through a number of holes 3 also hit against another polymerized corrugated sheet 1 and are absorbed in a similar way, or the sound waves which hit against the wall and are then reflected hit against the rear surface of the corrugated sheet 1, and result in absorptive actions or irregular reflections similar as above. Thus, most of an acoustic energy will be uptaken and absorbed in the corrugated sheet 1 after all.

That is, the sound wave energy headed for the wall 5 from a sound source most efficiently prevents the reflected sounds, by means of the absorptive actions due to the flexibility of the corrugated sheet, and attenuation actions due to irregular reflections between the acoustic materials due to the multiple perforations. Further, as the construction materials of this utility model, any plasticizing material may be choose as appropriate. However, the acoustic materials made by regenerating the scrap materials of the uninflammable films are desirable, in view of utilization of waste materials and fire protection.

#### **Our Comments:**

##### **1. As for Reason for Rejection 1**

The Examiner requests to amend the methods claimed in Claims 41 to 73, and the apparatuses claimed in Claims 74 to 99 to read the methods for manufacturing the laminates claimed in Claims 1 to 39, and the apparatuses for manufacturing the laminates claimed in Claims 1 to 39, respectively.

##### **2. As for Reason for Rejection 2**

We feel that the laminates shown in Figs. 1 to 3 and 13 in this application are the same as those described in Cited Reference 1 or 2, or those which can be easily conceived by any person skilled in the art, on the basis of the devices described in Cited Reference 1 or 2.

Accordingly, you will have to claim the laminates which are not disclosed in Cited Reference 1 or 2, and which cannot be easily conceived by any person skilled in the art, on the basis of the devices described in Cited Reference 1 or 2, the methods for manufacturing them, and the apparatuses for manufacturing them.

3. As for Reason for Rejection 3

- (a) The term "generally" should be deleted.
- (b) The "preferably", "still more preferably", "or similar", "e.g." and "in particular" clauses should be deleted. If you wish to retain them, you may claim them in additional Claims.
- (c) What is meant by the term "at least one of said piles the said average" set forth in Claim 5 is not clear.
- (d) Please explain the terms by means of the drawings.

**Remarks:**

Please be reminded that many debit notes are still outstanding as per the enclosed list. Please remit these outstanding payments to our account as soon as possible.